

HEPTODE FREQUENCY CHANGER

EK90

Heptode primarily intended for
use as a frequency changer.

HEATER

Suitable for series or parallel operation a.c. or d.c.

V_h	6.3	V
I_h	0.3	A

MOUNTING POSITION

Any

CAPACITANCES (measured without an external shield)

C_{a-a11}	8.6	$\mu\mu F$
C_{g1-a11}	5.5	$\mu\mu F$
C_{g3-a11}	7.2	$\mu\mu F$
C_{a-g1}	< 0.05	$\mu\mu F$
C_{a-g3}	< 0.3	$\mu\mu F$
C_{g1-g3}	< 0.15	$\mu\mu F$
C_{g1-k}	2.8	$\mu\mu F$

OPERATING CONDITIONS (with separate excitation)*

V_a	100	250	V
V_{g2+g4}	100	100	V
V_{g3}	-1.5	-1.5	V
R_{g1-k}	20	20	k Ω
I_k	10.6	10.6	mA
I_a	2.8	3.0	mA
I_{g2+g4}	7.3	7.1	mA
I_{g1}	500	500	μA
g_c	455	475	$\mu A/V$
r_a	0.5	1.0	M Ω
V_{g1} (for 100 : 1 reduction in g_c)	-30	-30	V

*The operating conditions shown with separate excitation correspond very closely with those obtained in a self-excited oscillator circuit operating with zero bias.

OSCILLATOR SECTION

V_a	100	V
V_{g2+g4}	100	V
V_{g3}	0	V
V_{g1}	0	V
I_a	25	mA
$g_m (g1-g2+g4+a)$	7.25	mA/V
$I_k (g1-g2+g4+a)$	20	

LIMITING VALUES

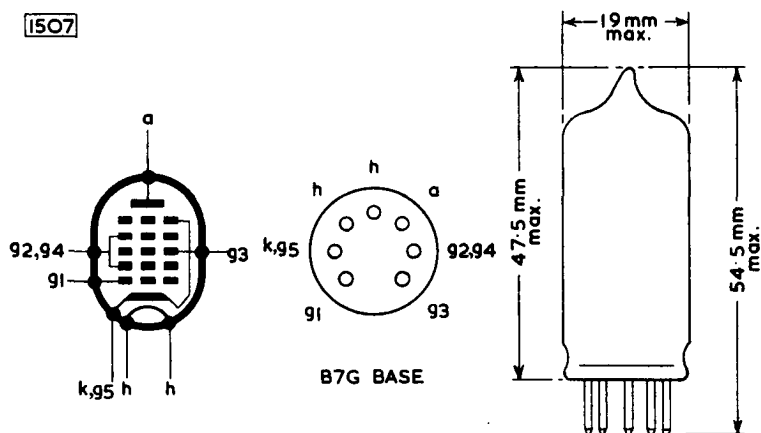
$V_{a(b)}$ max.	550	V
V_a max.	300	V
p_a max.	1.0	W
$V_{g2+g4(b)}$ max.	300	V
V_{g2+g4} max.	100	V
p_{g2+g4} max.	1.0	W
I_k max.	14	mA
R_{g3-k} max.	3.0	M Ω
V_{h-k} max.	90	V

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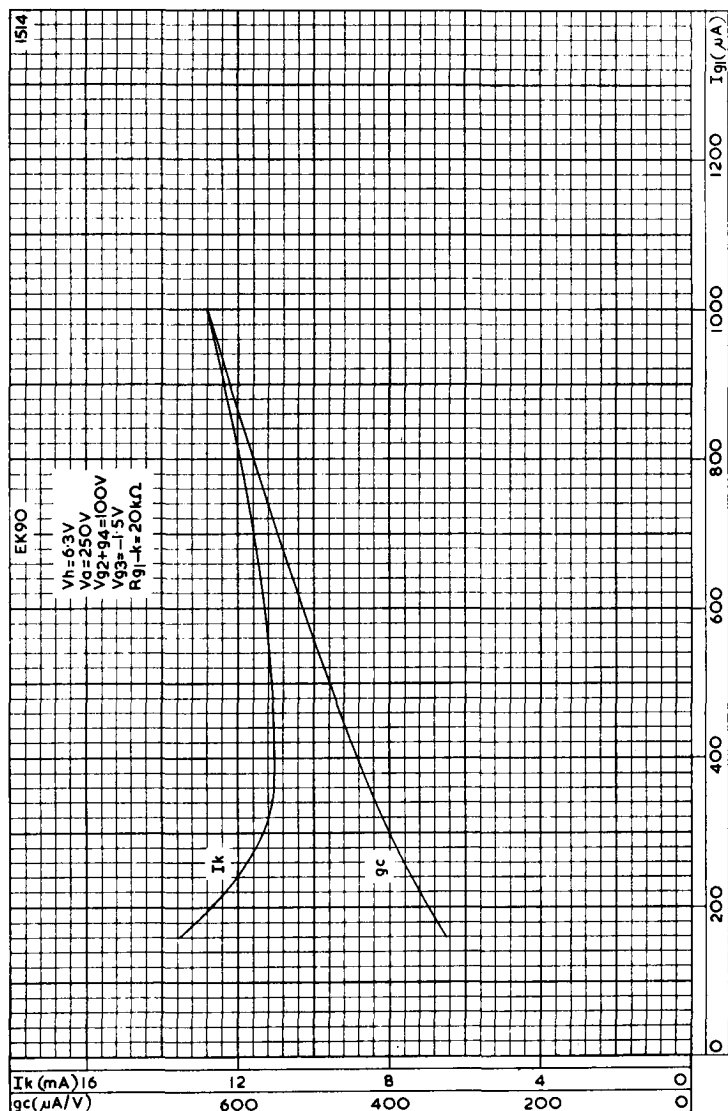
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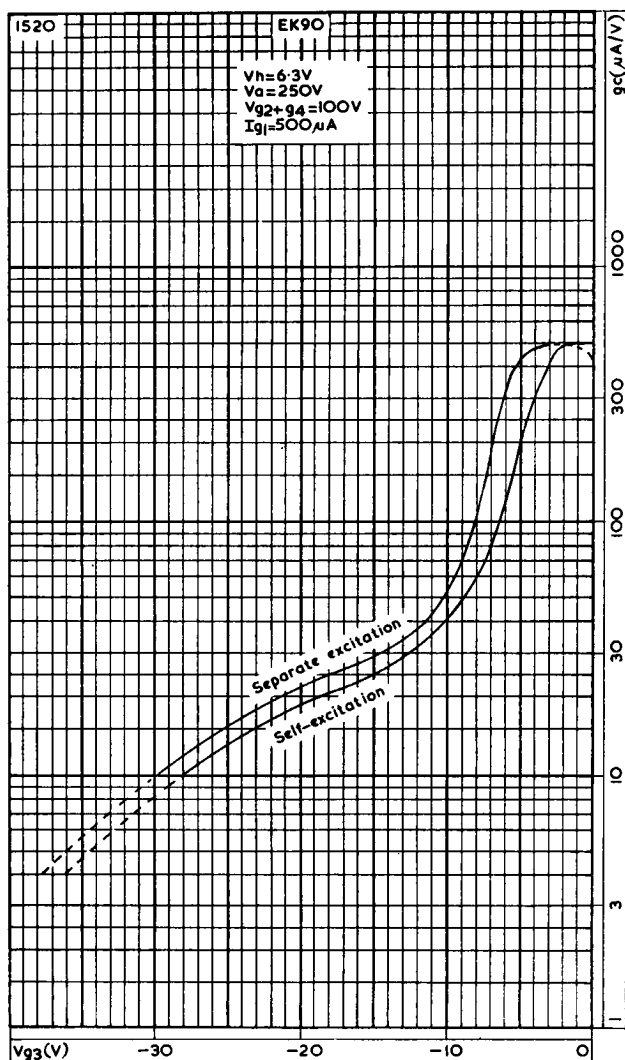
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CONVERSION CONDUCTANCE AND CATHODE CURRENT PLOTTED AGAINST OSCILLATOR GRID CURRENT

Heptode primarily intended for use as a frequency changer.



CONVERSION CONDUCTANCE PLOTTED AGAINST CONTROL GRID VOLTAGE